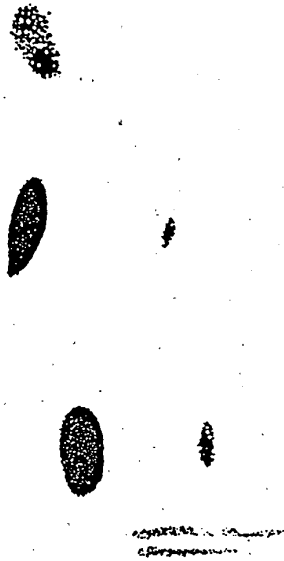




20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95

Acetylated Forms of
[¹⁴C] Chloramphenicol



Unmodified
[¹⁴C] Chloramphenicol

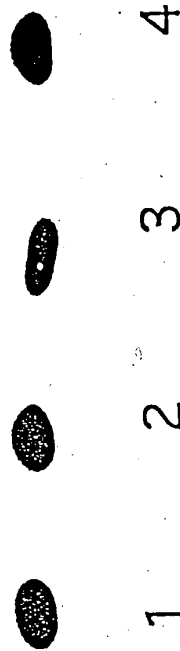


FIG. 2

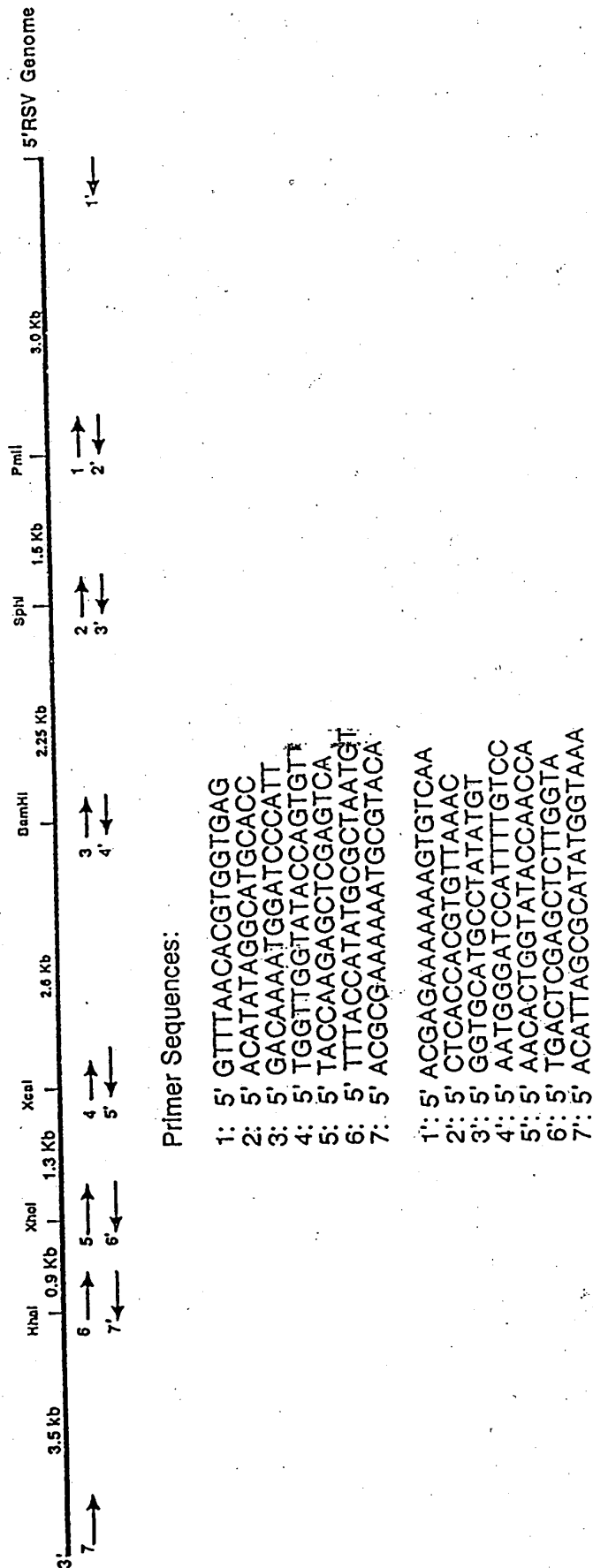
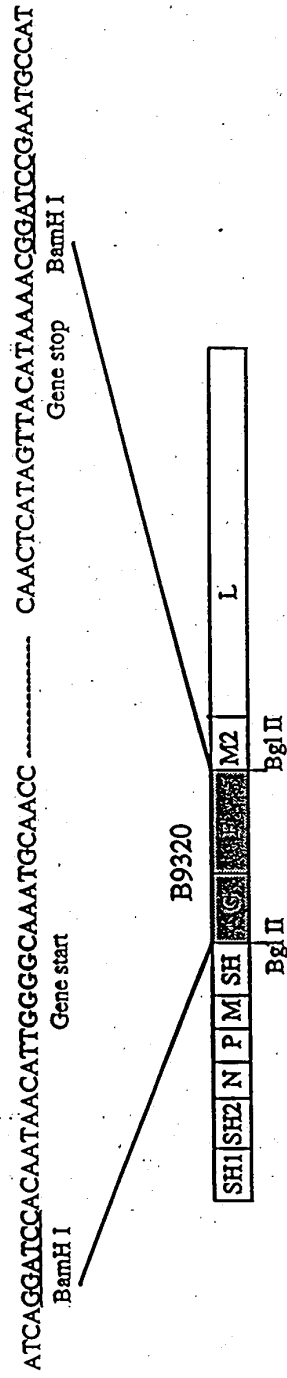


FIG. 3

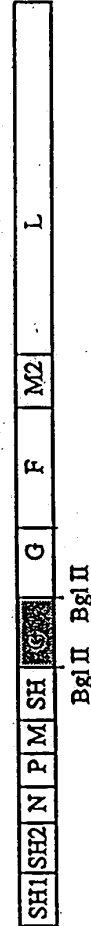
A. RSVB-GF



B. RSVB9320G-F/M2



C. RSVB9320G-SH/G



FIGS. 4A-C

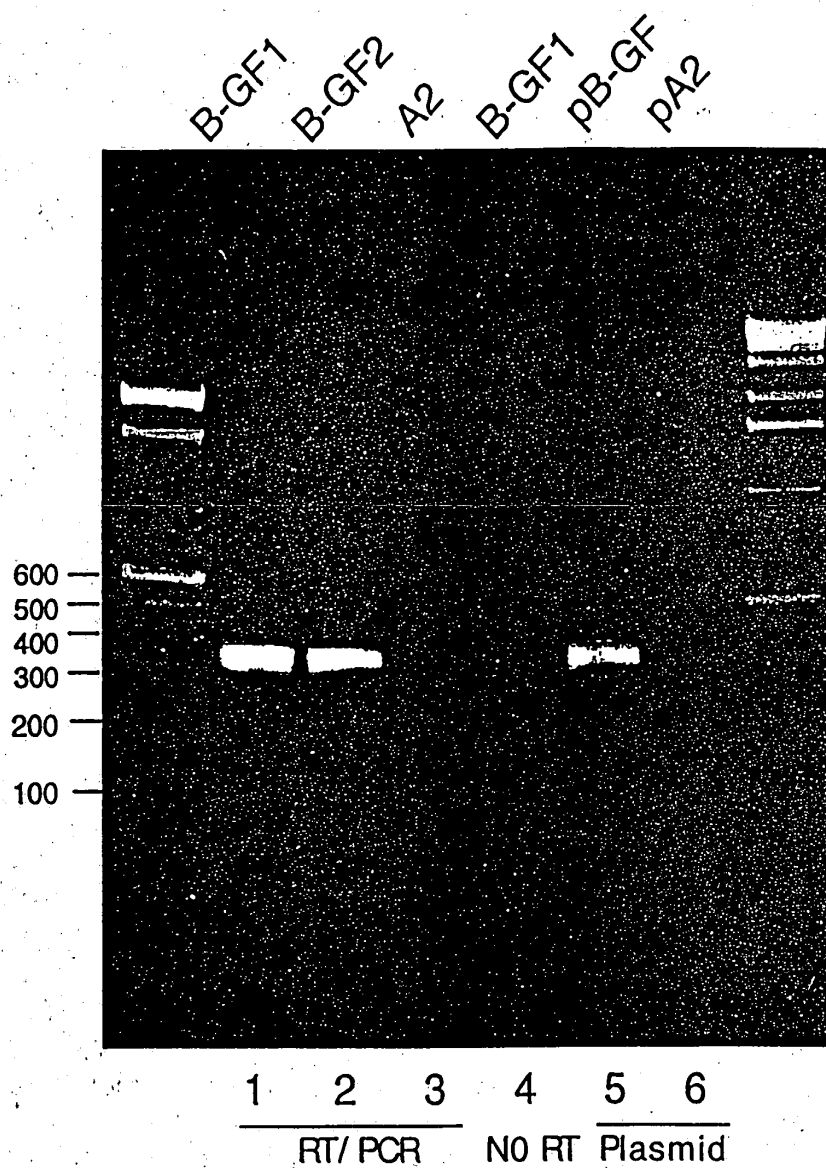
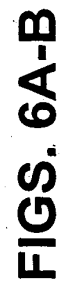


FIG. 5



FIGS. 6A-B

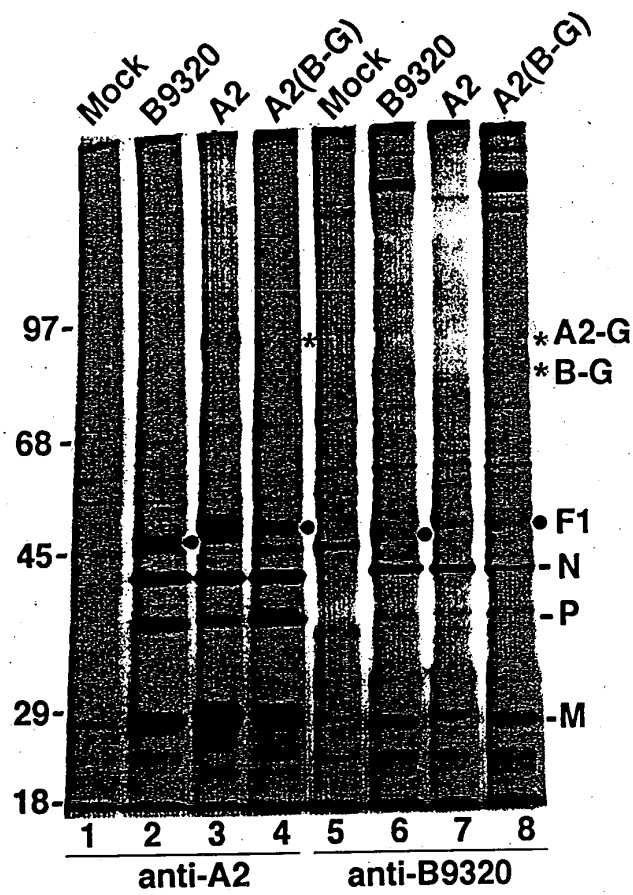


FIG. 7

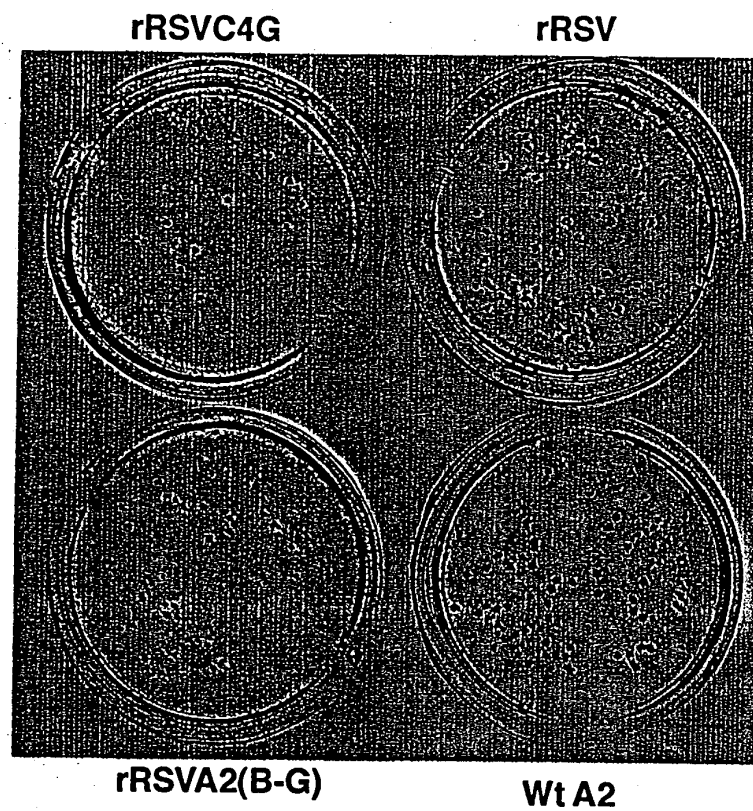


FIG. 8

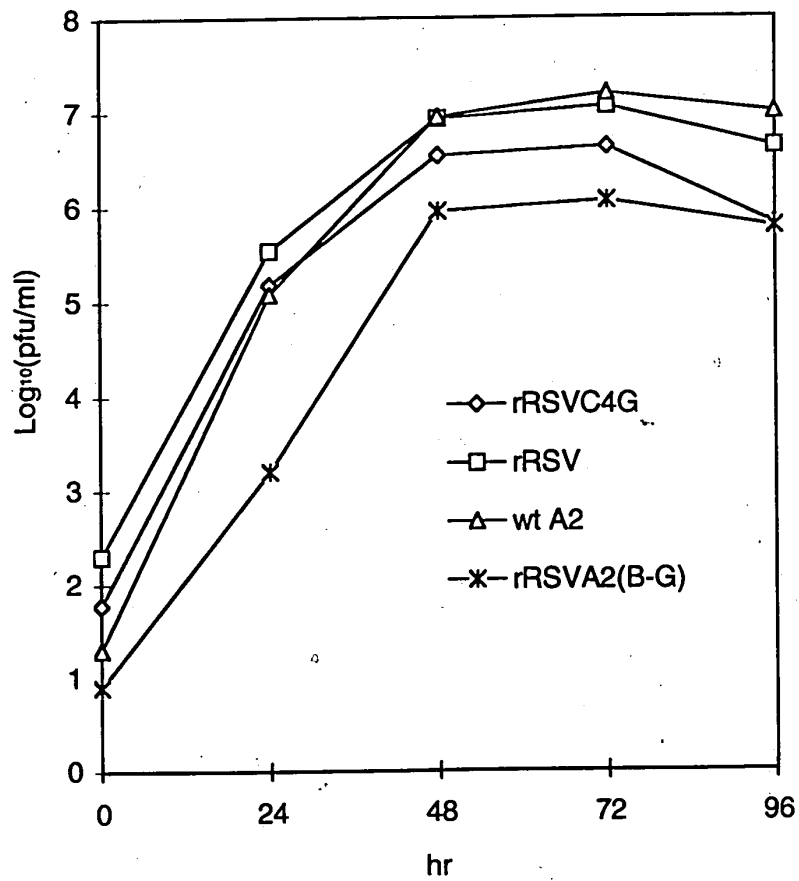


FIG. 9

7682-045

MDPIINGNSANVYLT DSYLKGVISFSECNA LGSYIFNGPYLKNDY TNLISRONPLIEHMN LKKNITQSLISKYH 75
 KGEIKLEPTFYQSL LMTYKSMTSSEQIAT TNLKKIIRRAIEIS DVKVYAILNKLGLKE KDKIKSNGQDEEDNS 150
 VITTIKDDILSAVK DNQSHLKADKNHSTK QKDTIKTTLKKLMC SMQPPSWLIHWFNL YTKLNNILTOYRSNE 225
 VKNHGFTLIDNQTLG GQFILNQYGCIVVH KELKRITVTYVQFL TWKDISLSRLNVCLI TWISNCLNTINKSLG 300
 LRCGFNNVILTQLFL YGDCILKLFHNEGFI IITKEVEGFIMSLILN ITEEDQFRKRFYNSM LNNITDAANKAQKNL 375
 LSRVCHTLIDKTVSD NIINGRWIILLSKFL KLIKLAGDNNLNLS ELYFLFRIFGHMVD EQQAMDAVKINCNET 450
 KFYLLSSLSMLRGAF TYRIKGFVNNYNRW PTLRNAIVLPLRWLT YYKLNTYPSLLELLE RDILVLSGLRFFREF 525
 RLPKKVDLEMIINDK AISPKNLIWTSFPR NYMPSHIQNYIEHEK LKFSSEDKSRRVLEY YLRDNKFNEDLYNC 600
 VVQSYLNNPNHVS LTGKEBELSVGRMFA MQPGMFRQVQILAEK MIAENILQFFPESLT RYGDLEQLKILELKA 675
 GISNKSRYNDNNYN YISKCSITDLSKEN QAFRYETSCICSDVL DELHGVQSLFSWLHL TIPHTIICITYRHAP 750
 PYIGDHIVDLNNVDE QSGLYRYHMGIEGW CQKLWTEIAISLLDL ISLKGKFSITALING DNQSIDISKPIRLME 825
 GQTHAQADYLLALNS LKLLYKEYAGIGHKL KGTETYISRDMQFMS KTIQHNQVYYPASIK KVLRVGPWINTILDD 900
 FKVSLESIGSLTQEL EYRGESLLCSLIFRN VMLYNQIALQKNHA LCNKNLYLDILKVLK HLKTFNLDNIDTAL 975
 TLYMNLPMFLGGGDP NLLYRSFYRRTPDFL TEAIVHSVFILSYT NHDLDKQLDLSDDR LNKFLTCLITFDKNP 1050
 NAEFVTLMRDPQALG SERQAKITSEINRLA VTEVLSTAPNKIFSK SAQHYTTTEIDLNDI MONIEPTYPHGLRVV 1125
 YESLFFYKAEKIVNL ISGTSITNILEKTS AIDLTDIDRATENMR KNITLLIRILPLDCN RDKREILSMENLSIT 1200
 ELSKYVRERSWSLSN IVGVTSPSIMYTMDI KYTSTISSGIIIEK YNVNSLTRGERGPTK PWVGSSTOEKKTMPV 1275
 YNRQVLTCKQRDQID LLAKLDWVYASIDNK DEFMEELSIGTLGLT YEKAKKLPQYLSVN YLHRLTVSSRPFCEFP 1350
 ASIPAYRTTNVHFDI SPINRILTEKYGDED IDIVFQNCISFGLSL MSVVEQFTNVCPNRI ILIPKLINEIHLMKPP 1425
 IFTGDDVIDHKLKQVI QKQHMFLPKISLTQ YVELFLSNKTLKSGS HVNSNLILAHKISDY FHNTYILSTNLAGHW 1500
 ILIIQLMKDSKGIFE KDWGEGYITDHMFN LKVFENAYKTYLLCF HKGYGKAKLECDMNT SDLLCVLELIDSSYW 1575
 KSMKSVFLEQKVICY ILSQDASLHRVKGCH SFKLWFLKRLNVAEF TVCPWVNVNIDYHPTH MKAILTYIDLVRMGL 1650
 INIDRIHIKNHKKFN DEFYTSNLEYINYNF SDNTHLLTKHIRIAN SELENNYNNKLYHPTP ETLENILANPIKSND 1725
 KKTLDYICIGKNVDS TMLPLLSNKKLIKSS AMIRTNYSKQDLYNL FPMVVIDRIIDHSGN TAKSNQLYTTTSHQI 1800
 SLVHNSTSLYCMPLPW HHINRFNFVFSSTGC KISIEYILKDLKIKD PNCFIAGIEGAGNLL LRTVVELHPDIRYIY 1875
 RSLKDCNDHSLPIEF LRLYNGHINIDYGEN LTIPATDATNNIHS YLHIKFAEPISLFVC DAELSVTNVWSKIII 1950
 EWSKHVRKCKYCSSLV NKCMLIVKYHAQDDI DFKLDNITILKTYVC LGSKLKSGSEVYLVLT IGPANIFPVENVVQN 2025
 AKLILSRKTFIMPX KADKESIDANIKSLI PFLCYPITKKGINTA LSKLKSUVSGDILSY SIAGRNEVFSNKLIN 2100
 HKHMMILKWFENHVLN FRSTELNYNHLMYVE STYPYLSSELINSLTT NELKKLIKITGSLLY NFHNE 2165

Charged Clusters (Amino Acids that are underlined were changed to alanines)

Mutations in cpts-248/404

Mutation in cpts530

FIG. 10

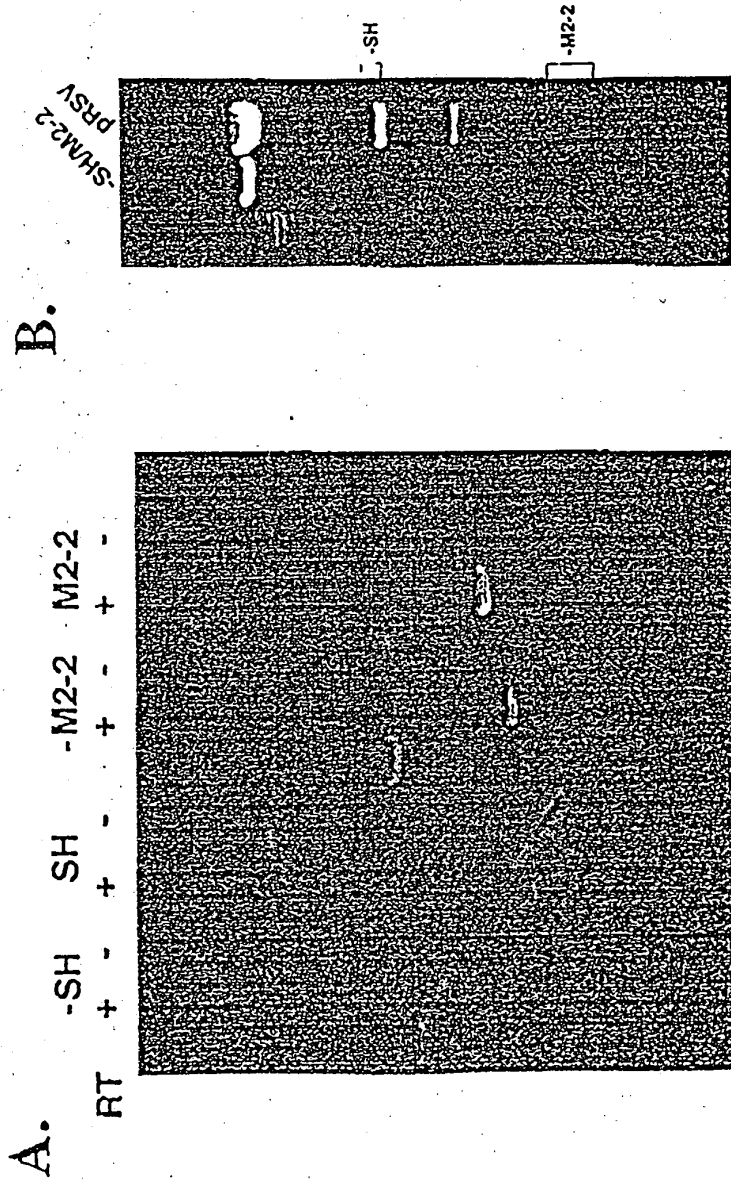
MDPIINGNSANVYLT DSYLKGVISFSECNA LGSYIFNGPYLKNDY TNLSRQNPLIEHNN LKKLNITQSLISKYH 75
 KGEIKLEETPFQSL LMTYKSMTSSEQIAT TNLKKIIRRAIEIS DVKVYAILNKLGLKE KDKIKSNNGQEDENS 150
 VITTIKDDILSAVK DNQSHLKADKNHSTK QKDTIKTTLKKLMC SMQHPSPSWLIHWENL YTKLNILITQYRSNE 225
 VKNHGFTLIDNQTLS GFQFIINQYGCIVYH KELKRITVTTYNQFL TWKDISLSRLNVCLI TWISNCLINTLNKSLG 300
 LRCGFNNVILLTQLFL YGDCILKLFHNEGFY IIKEVEGFIMSLILN IITEEDQFRKRFYNSM LNNITDAANKAQKNL 375
 LSRVCHTLLDKTVSD NIINGRWIILLSKFL KLIKLAGDNNLNNLS ELYFLFRIFGHPMVD ERQAMDAVKINQNET 450
 KFYLLSSLSMLRGAF IYRIIKGFVANNYNRW PTLRNAIVLPLRWLT YYKLNITYPSLLELTE RDLIVLSGLRFYREF 525
 RLPKKVDLEMIINDK AISPPKNLIWTSFPR NYMPSHIQNYIEHEK LKFSESDKSRRVLEY YLRDNKFNECDLYNC 600
 VVNSYLNPNHNVUS LTGKERELSVGRMEFA MQPGMERQVQILAEK MIAENILQFFPESLT RYGDLELQKILELKA 675
 GISNKSRYNDNYNN YISKCSITDLSKEN QAFRYETSCICSDVL DELHGVQSLFSWLHL TIPHVTIICTYRHAP 750
 PYIGDHIVDLNNVDE QSLYRYHMGIEGW CQKLWTEAISLLDL ISLKGFSITALLNG DNQSIDISKPIRLME 825
 GQTHAQADYLLALNS LKLLYKEYAGIGHKL KGTETYISRDMQFMS KTIQHNGVYYPASIK KVLRVGPWINTILDD 900
 FKVSLESIGSLTQEL EYRGESLLCSLIFRN VWLYNQALQKLNHA LCNNKLYLDILKVLK HLKTFNLDNIDTAL 975
 TLYNNLPMLEGGDP NLLYRSFYRRTPDFL TEAIVHSVFILSYT NHDLKDKLQDLSDDR LNKFLTCTIITFDKNP 1050
 NAEFTLMRDPQALG SERQAKITSEINRLA VTEVLSTAPNKIFSK SAQHYTTTEIDINDI MQNIEPTYPHGLRVV 1125
 YESLPFYKAEKIVNL ISGTSITNILEKTS AIDTDDIDRATETMR KNITLLIRILPLDQCN RDKREILSMENLSIT 1200
 ELSKYVRERSWSLSN IVGVTSPSTMYTMDI KYTTSTISSGIIIEK YNVNSLTRGERGPTK PWVGSSTQEKKTMPV 1275
 YNRQVLTCKQORDQID LLAKLDWVYASIDNK DEFMEELSIGTLGLT YEKAKKLFPQYLSVN YLHRLTVSSRPQEPF 1350
 ASIPAYRTTNYHFDI SPINRILTEKYGDED IDIVFQNCISFGLSL YVELFLSNKTLKSGS HVNSNLILAHKISDY FHNTYILSTNLAGHW 1425
 IFTGDVDIHKLKQVI QKQHMFLPKISLTQ YVELFLSNKTLKSGS HVNSNLILAHKISDY FHNTYILSTNLAGHW 1500
 ILIIQLMKDSKGIFE KDWGEGYITDHMFN LKQVFFNAYKTYLLCF SEKLFELKRLNVAEF TVCPWVNVNIDYHPTH 1575
 KMSKVLEQKVICY ILSQDASLHRVKQCH DEFYTSNLFYINYNF SDNTHLLTKHIRIAN SELENNYNKLYHPTP 1650
 INIDRIHIKNKHFN IMPLLSNKKLIKSS AMIRTNYSKQDLYNL FPMVVIDRIIDHSGN TAKSNQLYTTTSHQI 1725
 KKTINDYCIQKNVDS HHINRNFVFSSTGC KISIEYILKDLKIKD LTIPATDATTNNIHS YLHIKFAEPISLFCV 1800
 SLVHNSTSLYCMLEPW LRLVNGHINIDYGEN LKQVFFNAYKTYLLCF SEKLFELKRLNVAEF TVCPWVNVNIDYHPTH 1875
 RSLKDCNDHSLPTEF LRLVNGHINIDYGEN LKQVFFNAYKTYLLCF SEKLFELKRLNVAEF TVCPWVNVNIDYHPTH 1950
 EWSKHVRKCKYCSSV NKCMILIVKYHAQDDI DFKLDNITILKTYVC LGSKLKGSEVYLVLT IGPANIFFVENVVQN 2025
 AKLILSRKTNFIMPK KADKESIDANIKSLI PFLCYPITKKGINTA LSKLKSUVSGDILSY SIAGRNEVFSNKLIN 2100
 HKHNNILKWFNVHVN FRSTEINYNHLYMVE STYPYLSELNLSLTT NELKLIKITGSLLY NFHNE 2165

C Cysteine residues

C Cysteine residues that were changed to valine or aspartic acid

C Cysteine residue deleted

FIG. 11



FIGS. 12A-B